

**Academic Health Science Centre  
Application for Designation  
PART 2**

**Cambridge University Health Partners**



**UNIVERSITY OF  
CAMBRIDGE**

Cambridge University Hospitals **NHS**  
NHS Foundation Trust

Papworth Hospital **NHS**  
NHS Foundation Trust

Cambridgeshire and Peterborough **NHS**  
NHS Foundation Trust

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# 1 VISION AND BENEFITS

## 1.1 Vision and Goals for the Cambridge AHSC

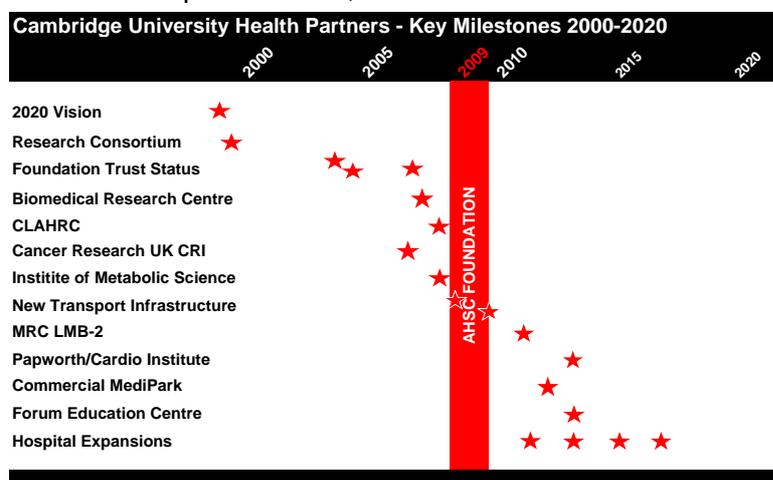
The Cambridge AHSC will be a world-leading academic clinical partnership, improving patient care, patient outcomes and population health through innovation and the integration of service delivery, health research and clinical education. Each strand of the tripartite mission (care, research, education) will strengthen the other to build capacity. Strategic goals include: *knowledge generation* - adding to the global stock of knowledge through research and dissemination; building research capacity; fostering innovation in service delivery; *knowledge application* for health and healthcare improvement - moving discoveries into practice through translational and applied research; promoting a service culture of systematic enquiry and openness to innovation; engagement of our people in mechanisms for developing, diffusing and applying evidence for improvement; alignment of service between partners and with the academic mission; *knowledge transmission* - providing a setting for the education, training and development of healthcare professionals and the wider healthcare workforce that is characterised by systematic enquiry and a commitment to the use of evidence in practice; *contributing to a knowledge-based economy* - contributing to economic and social development for the benefit of the Cambridge sub-region, the East of England and the UK as a whole; fully engaging with the attributes that make the Cambridge sub-region notable as a system for innovation.

## 1.2 The Cambridge context and proposal.

This proposal is distinguished by four characteristics that we believe are unique to Cambridge:

- it is being put forward half way through a 20-year programme to develop a world-leading academic clinical centre for Cambridge in which much has already been achieved but where the opportunity exists to achieve a great deal more;
- the three NHS partners have operated throughout this period as a co-ordinated delivery system, with collaboration over patient pathways and no duplication of services;
- the partnership is based in the Cambridge sub-region, an area of exceptional economic dynamism and growth from a knowledge-based economy, within which biotechnology is a significant sector;
- the partners have access to over 70 acres of green-field land with development permissions for purposes consistent with the tripartite mission.

In 1999, Addenbrooke's NHS Trust, in partnership with the University of Cambridge and the Medical Research Council, launched its *2020 Vision*. This was a strategy for expansion of the Addenbrooke's Hospital site and its re-branding as 'The Cambridge Biomedical Campus', allowing for investment in clinical, research and education facilities. However *2020 Vision* was more than just a strategy for physical expansion. At its heart was an understanding that the activities of patient care, health research and education of the healthcare workforce are



interdependent and that the campus, situated at the heart of the dynamic Cambridge sub-region, presents an exceptional opportunity to develop excellence across all three strands of mission. Both Addenbrooke's and Papworth Hospitals were in the first wave of NHS Foundation Trusts, reflecting their ability to successfully adopt new models of governance for complex public services. By 2004, *2020 Vision* reflected the vision statement of the then newly established Cambridge University

Hospitals NHS Foundation Trust, which set itself the goal of being 'an academic clinical centre

of international stature; contributing to the health and wellbeing of the communities we serve through the provision of care; the generation of new knowledge; and the education of healthcare staff'.

The development of the clinical vision and outline business case for the re-provision of Papworth Hospital on the Cambridge Biomedical Campus, together with plans for development of an associated research and education centre, represents a further significant milestone. The Papworth move is motivated by recognition of the long term advantages to patients of closer integration with the University and Cambridge University Hospitals NHS Foundation Trust (CUH), facilitated by co-location. Other past milestones include the opening of the Cambridge Institute for Medical Research (1998); the Addenbrooke's Centre for Clinical Investigation in partnership with Glaxo SmithKline (1999); the Hutchison/MRC Research Centre (2002); the CRUK Cambridge Research Institute (2006); the Institute of Metabolic Science (2007); the award of a NIHR Comprehensive Biomedical Research Centre (2006); and the award of a NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) in 2008. The granting of planning permission for mixed health care, research, education and health care industries use on 70 acres of adjoining land in 2007, backed by a developer agreement and investment in new transport infrastructure, opens the door to further developments. The first of these will be re-provision of the MRC Laboratory of Molecular Biology in a state-of-the-art building, for which preparatory works have begun. CUH is planning new clinical facilities as part of a phased renewal of its hospitals, together with new education facilities. Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) also wishes to re-provide much of its in-patient facilities on the campus in a way that is co-ordinated with planned CUH developments for children's services and neurosciences. The next 10 years will also see the development of further industrial links as a commercial science park ('medipark') is developed on part of the 2020 land, contributing the funding for the transport and other infrastructure investment required.

Establishing the partnership on a more formal basis and securing designation as an AHSC will represent a timely recognition and a point of acceleration in our 20-year programme to develop a world-leading academic clinical centre.

### **1.3 Strategy for Achieving the Vision - Cambridge University Health Partners.**

The strategy for achieving the AHSC vision is to establish the structural, governance, leadership and management arrangements to achieve functional integration. *Structure* will involve the establishment of a new legal entity, to be known as Cambridge University Health Partners (CUHP), whose objects will be the pursuit of the tripartite mission. The *governance* arrangements for this entity will be designed to ensure that the interests of the partners can be represented, joint strategy agreed and partnership working implemented. They will also meet principles of good governance in the public sector and be aligned to the existing governance arrangements for the individual partners. *Leadership* will be provided at a strategic level through the wealth of experience that will be assembled on the CUHP Board and on a managerial level through clear delegation from the Board to executive leads, thus providing effective management of AHSC business. It is anticipated that this business will mostly be of an enabling nature, promoting collaboration between the partners, rather than direct provision of functions or services.

In the remainder of this proposal we demonstrate how the Cambridge collaboration has generated benefits for patients and for the local population and how this process will be accelerated by the formal establishment of CUHP. We then expand on the strategy for achieving the vision by describing how CUHP will add value and by providing more detail on proposed governance arrangements.

### **1.4 Benefits of the AHSC.**

We anticipate the acceleration of a range of benefits from CUHP. For *patients* and for the *local population* these will be immediate, flowing from treatment in a research-rich environment characterised by a culture of enquiry, and longer term arising from discovery and application. CUHP will offer *clinical staff* (both today's and tomorrow's) the benefits of clinical practice, education, training and development in a research-rich organisation. For *researchers* it will

nurture and facilitate new collaborations and reduce 'back office' barriers. For the *regional and national economy* we anticipate that CUHP will generate a range of economic and social benefits for the sub-regional and regional economy, which is knowledge-based in large part. Finally there will be the contribution to the global stock of knowledge that is an asset for *international and global healthcare* and for *population health*.

We show how the interaction between research and clinical services delivers benefits within this framework, describing the general attributes of Cambridge that support translational research, and then selecting 3 specific areas of healthcare as exemplars: these demonstrate how the CUHP partners and associates work across the translational pathway from basic biology through clinical studies to clinical care and policy application. Our strategy will be to use CUHP as the vehicle to accelerate this process – we refer to this in part 1 as a strategy of 'harnessing partnership'. Elsewhere we have documented this translational pathway for *all* our research themes in the *Cambridge Biomedical Research Centre annual report 2007/8* and in annual reports of the *Cambridge Research Consortium*. We then briefly comment on benefits from our educational activities and on our positive social and economic effects.

**Translational research in Cambridge.** CUHP will enable translational approaches from laboratory to patient, thence into service delivery, commissioning and the wider community through alignment between the BRC, hosted by CUHFT, and the CLAHRC hosted by CPFT. As regards 'the first translational gap', biomedical research is pursued in an environment comprising all the elements required for successful translation into practice: world-class underpinning and clinical science; focused biomedical research institutes; a teaching hospital and an impressive range of biotech and pharma companies in surrounding science parks. The research activity is characterised by extensive networks and research collaborations equal to any in Europe. **Strategy for translational research:** Natural sciences and clinical research is translated into products and practice through two major routes. The outcome of research finds its way directly into the clinic as new therapies, interventions or diagnostic methods: close links with the hospital are central to such 'experimental medicine' research. Other research leads to platform technologies, new chemical or antibody entities, or medical devices that are transferred to existing industry or spun out into small companies. The University's strategy also includes plans to develop closer links across Biological Sciences, Physical Sciences, Chemistry and Engineering through to Clinical Medicine by new appointments and initiatives (such as the new Physics of Medicine building). **Experimental medicine and translation:** Our clinical research programmes emphasise a number of themes, which link to related programmes in Biological Sciences and across the University. The Wellcome Trust Clinical Research Facility (CRF), co-located with the GlaxoSmithKline Clinical Research Unit in the Addenbrooke's Centre for Clinical Investigation, is key to our work in experimental medicine, allowing integration between University Hospital and pharmaceutical industry investigators. This area is supported by the Wellcome Trust (CRF capital), NIHR Biomedical Research Centre (£14.5M p.a.), the MRC Translational Research Initiative (£2.5M capital) and many individual investigator awards. **Translation into biotech and pharma:** There have been numerous successful spin-outs from the University and associated Institutes in Cambridge including Kudos, Chroma, Biotica and Astex focusing on new chemical entities and Cantab and CAT on new antibodies. There are current strengths in early drug discovery being nurtured in the University, much of it through the *Cambridge Molecular Therapeutics Programme* which involves active collaboration between the Departments of Chemistry, Biochemistry, Physics and Oncology. **Improving translation of research:** The University provides both centralised and distributed services for the translation of research and its commercial exploitation. *Cambridge Enterprise* is a wholly owned subsidiary of the University established to support the University mission of dissemination of the results of research and scholarly activities. It is one of the top technology transfer offices in Europe and in the top 10% of US Universities based on number of licensing transactions completed per annum. Papworth, in partnership with Health Enterprise East (the regional NHS innovation hub), has rapidly built capacity and expertise in the commercialisation of NHS IP. **Direct impacts bridging the 'second translational gap'** result from our research in all thematic areas – three exemplars are given here:

**Exemplar 1 - Cancer.** The major developments in cancer research in Cambridge over the past 10 years (c£70M capital for new laboratory research buildings, c£40M p.a. currently in peer-reviewed funding) have been driven by the opportunity to take the science of Cambridge to

clinical application. We have created substantial research infrastructure, recruited clinical scientists to be Principal Investigators in the major laboratory programmes and appointed NHS consultants to research programmes so that they become the NHS bridgehead both for the application of research and for access to patient material. We have developed integrated programmes around six selected cancer sites (breast, prostate, upper GI, blood, lung, ovary) which span from basic biology to clinical application, and created an overarching Cambridge Cancer Centre, which spans from basic research in biological and physical sciences through cancer research, to the cancer clinics, public health and the regional cancer network.

The clinical vision for the East of England emphasises prevention and earlier detection. Programmes on earlier diagnosis in primary care (e.g. of naevi that harbour melanoma) address this at an immediate clinical level. In the medium term, we will bring together the expertise of Cambridge in public health, epidemiology (including genetics) and the primary care research network with the resources in genomics, imaging, cell biology and mouse models within the laboratories to develop new programmes in which novel methods of early detection and interaction are evaluated in high risk groups within the population defined through our epidemiological and genetic studies. Surveillance cohorts for Barrett's oesophagus and for prostate cancer (the ProtecT study) are already in place; a new 6000-strong surveillance cohort for lung cancer, comprised of heavy smokers, is planned. The East of England, with its relatively stable population, good primary care networks and accessibility, provides a favourable testing ground for the application of new research in a population setting.

Cancer care in the Anglia Cancer Network is provided in a hub and spoke model. Standard systemic treatment options are delivered as close as possible to the patient's home. For the common malignancies it is usually possible to offer entry into clinical trials locally. For rarer cancers, standard systemic therapy options will usually be available locally and trial entry will be centralised at CUH. Radiotherapy treatment is provided at CUH. The journey of a patient with lung cancer is illustrative: a patient presenting in one of the regional network hospitals with a suspicious lung lesion would be referred to the highly efficient "Two Stop" service at Papworth Hospital, the regional cardiothoracic centre. Within 10 days the patient would have a diagnosis, staging of their disease (with the potential to be involved in a clinical trial of novel staging techniques) and a treatment plan confirmed at the Thoracic Oncology Multi-Disciplinary Team meeting, including the option of involvement within a clinical trial. Depending on personal choice, clinical situation and available standard and trial options, the patient would then receive treatment at CUH or a local hospital, with long term follow-up and support provided locally.

Looking to the future illustrates how the partners in CUHP are committed to working with primary prevention services to reduce the burden of lung cancer. With strengths in standard and research imaging, clinical trials and genetic epidemiology, we plan to identify patients at risk, monitor those with pre-malignant lesions and selectively treat those which progress. The aim is to understand better the biology and natural history so as to develop integrated strategies for the prevention of deaths from lung cancers through early intervention. None of the partners individually have all the skills to develop such an ambitious programme - together, we do.

**Exemplar 2 - Mental Health.** The formation in 2002 of a Cambridgeshire-wide specialist mental health trust serving a population of some 800,000 (becoming CPFT in 2007) facilitated clinical-academic partnerships with Psychiatry, Clinical Neuroscience, the MRC Cognition & Brain Sciences Unit (CBU) and the joint MRC/Wellcome Behavioural & Clinical Neurosciences Institute (BCNI). There is a focus on translational research with major inputs to the neuroimaging programme of the NIHR comprehensive BRC, close working with the GSK Experimental Medicine Unit and the recent award to CPFT of the NIHR CLAHRC for Cambridgeshire & Peterborough (linking Psychiatry, the Judge Business School, the Engineering Design Centre, the Institute of Public Health, Cambridgeshire PCT, Peterborough PCT and NHS East of England). CPFT hosts the regional NIHR mental health research network hub and accommodates the dementia and neuro-degenerative disease network (DeNDRoN) so as to maximise recruitment to treatment trials.

Many of the benefits for patients arise from the focus on a life course understanding of mental health and illness ranging from childhood, through adolescence and into old age. Research into basic disease mechanisms is translated into clinical innovation informed by a strong public health perspective. This is leading to the redesign of services over key transition points such as

from child and adolescent services into the adult domain, keeping the emphasis on the needs of young people - transition between services is a key focus of the NIHR CLAHRC. Below are examples of the approach where traditional age-defined service boundaries have, hitherto, cut across the emerging developmental biology of the disorders leading to disadvantages for patients.

In *psychotic disorders*, research on the childhood antecedents of schizophrenia contributed to the national policy of developing Early Intervention Services (EIS) to improve outcomes. This led to a re-engineering of the adult clinical-academic services and the formation in 2002 of a new EIS led by clinical-academic staff that now covers the entire Cambridgeshire population aged 14-35 years. This service won the 2007 Psychiatry Team of the Year award and supports research ranging from pragmatic trials of psychological therapies to basic pharmacology and neuroimaging. In *depression*, academic staff were involved in the development of NICE Guidelines for adolescents which triggered the first multicentre treatment trial (HTA) in the UK, led from Cambridge. This showed that current best practice in psychological and pharmacological treatment was as effective as the specialised treatments being implemented until that time. This has led to a further multi-centre trial of psychological treatments and, together with epidemiological work on the mechanisms of adolescent depression (Wellcome) and on the very long-term, poor outcomes of childhood depression and antisocial behaviours (MRC), to the development of a new mood disorders service. This unites the University, CPFT and clinical scientists from the MRC CBU and BCNI, taking a life course view of care and research. A similar approach is being developed for ADHD.

Given that many determinants of physical health and survival are driven, in part, by psychological mechanisms (health choices and psychological morbidity) and have their fundamental biology located in the brain (obesity & its sequelae, or addiction) the opportunities afforded by CUHP include investigation and innovation across traditional research and clinical boundaries. The startling excess mortality in people with depression and schizophrenia arising through physical illness, such as cardiovascular disease can also be tackled most effectively in the partnership context of an AHSC. We already have strategic appointments in Behavioural Science (General Practice; see below) and in Health Neuroscience (Psychiatry) that have triggered radically new collaborations across traditional domains (e.g. linking obesity, cognitive neuroscience & genetics) upon which the AHSC will build. Such partnerships between the NHS, University, the MRC CBU and the BCNI are being strengthened by partial co-location in a new Centre for Brain & Mind Sciences on the biomedical campus. This is short to medium-term accommodation: CUHP will underpin a long-term, strategic vision of integrated mental and physical research, education and care taking into account developmental, rather than chronological age so as to bring benefits to patients.

### **Exemplar 3 - Epidemiology, Public Health and Primary Care**

The Institute of Public Health (IPH) was established in 1992 as a collaboration between the University, the MRC and the NHS to promote multi-disciplinary research, teaching and evidence-based service delivery. It aims to provide evidence to promote the health of the population and to prevent premature death and disability from major conditions by; understanding the cause and natural history of disease; identifying and evaluating new possibilities for intervention and prevention; and monitoring trends in population health. Partners include the University Department of Public Health and Primary Care (hosting the MRC Centre for Nutrition and Cancer Prevention and Survival); the MRC Biostatistics and Epidemiology Units; and regional NHS resources. The IPH thus brings a strong population perspective to bear on the activities of CUHP, encouraging the NHS partners to take a view of the whole population of their catchment and to consider the interdependence of public health, primary care and secondary and tertiary care practice in the realisation of a high quality cost-effective service.

IPH partners conduct an extensive portfolio of multidisciplinary research complementing the exemplars described above, with a particular focus on the prevention of the chronic diseases that contribute significantly to disease burden: mental health, cardio-vascular disease, diabetes and cancer. The IPH has a world class reputation in cohort studies to identify gene and environmental risks and interactions, in evaluation of novel biomarkers and screening strategies, and in the development and trial evaluation of preventive strategies. The General

Practice and Primary Care Research Unit (GPPCRU) is set within the Department of Public Health and Primary Care. Its focus is on identifying interventions that are effective and appropriate for everyday use in the NHS and getting evidence based treatments applied in widespread clinical practice. GPPCRU integrates approaches from primary care, epidemiology and the behavioural and social sciences with biological advances to address the prevention of chronic diseases (especially diabetes and cancer) and their consequences. The recent establishment of a new Chair in Primary Care Research adds primary care leadership in the prevention and management of Stroke. The Unit is funded as one of eight national NHS R&D Primary Care Academic Units and as a partner in the NIHR National School of Primary Care Research, with responsibilities for developing academic capacity in primary care and increasing the evidence base for practice. It discharges these duties through a long established service academic partnership agreement between the University and the Cambridgeshire PCT and East of England Deanery (School of General Practice), under which the PCT has developed its research infrastructure for governance and hosts the local research design service. The Unit provides strategic direction to the EoE Primary Care Research networks which recruited more than 11,000 participants to trials in 2008.

The IPH partners are involved with undergraduate and postgraduate education and provide academic supervision to most public health trainees in the region. The Masters and Doctoral programmes of the IPH and Department, with NHS, MRC and Wellcome support, provide a stream of rigorously trained clinical researchers from a range of disciplines (including MDs) who offer leadership in NHS and academic settings regionally, nationally and internationally.

Specific new developments will support CUHP goals (i) A newly appointed chair in Health Services Research (Professor Martin Roland) will provide leadership in the evaluation of health service organisation and delivery with particular attention to primary care, the primary/secondary care interface, the patient experience and practitioner behaviour: this new Chair will develop this research in a formal partnership the Clinical School has established with RAND Europe, who are based in Cambridge (ii) The MRC Biostatistics Unit has been awarded MRC funding to set up a clinical trials hub, which will extend methodological support for trials through advances in study design and methodology. CUHP will establish a complementary facility to offer practical support in the conduct of trials at each stage of the process. These developments will enhance the quality of design, conduct and output from trials being undertaken in the AHSC in the future (iii) CUHP will work with its commissioners and IPH partners to develop the concept of total population benefit from investment, supporting the development of world-class commissioning across the East of England.

Our endeavours in these fields, together with the community services provided by CPFT and our research and teaching networks will ensure that the strength of the secondary and tertiary centre in Cambridge is balanced with community-based activity (we refer to this in part 1 as a strategy of *campus and community*).

**Education, training and staff development.** Part 1 of our application sets out the range of education, training and development delivered through the partnership, emphasizing the commitment to access to high-quality provision for the entire NHS and research workforce. Between them, the partners deliver a broad range of educational offerings, ranging from basic skills training for healthcare assistants through to advanced post-registration training. CUHP will co-ordinate these offerings, in order to leverage the expertise of all four partners. In particular, CUHP will ensure that, where appropriate, educational programmes are able to lead to formal academic qualifications from the University of Cambridge. These will range from diplomas and certificates offered through the Institute of Continuing Education, to Masters and Doctoral degrees offered through the Faculty of Clinical Medicine and other appropriate faculties such as Engineering and Management. CUHP will also, where appropriate, seek recognition of the partners' educational provision through other educational partners such as Cambridge Regional College and Anglia Ruskin University.

**Economic and social development.** CUHP will also bring major economic and social benefits locally, regionally and nationally. Economic benefits follow from the partners' role as major employers and as procurers of goods and services. Social benefits follow from their role as employers and educators, through which they generate professional/social networks and shared values as well as developing individual knowledge and skills.

Between them the partners employ over 12,000 people. Around 10,000 people (including 6,500 CUH staff and 2,000 university staff) work on the Cambridge Biomedical Campus. Between now and 2021 it is expected that an additional 8-9,000 new jobs will be created on the campus. Cambridge is included within one of the UK government's Growth Areas and the Regional Spatial Strategy (RSS) plans for an additional 73,000 dwellings in the sub-region and an additional 75,000 new jobs between 2001 and 2021. The development of the Cambridge Biomedical Campus is expected to contribute at least 10% of the employment opportunity target for the sub region, with a high proportion of high-value jobs. Because of multiplier effects, the additional 8-9,000 jobs planned for the campus are expected to create an equal number of other jobs elsewhere in the community, further supporting the RSS. The partners also spend over £200M annually on goods and services and around £40M on capital projects, with a substantial effect on the local and regional economy.

Examples of industry partnerships include the Addenbrooke's Centre for Clinical Investigation (with GSK), the *Academic Incubator* project with GSK, seen by GSK as a prototype for their academic collaborations globally, and an agreement under which Merck has contributed to new research PET-CT facilities (also funded by NIHR capital). CUH is negotiating a strategic partnership with Siemens to deliver pathology services and stimulate related research.

CUHP will make a substantial contribution to the achievement of goals in the Regional Economic Strategy, including: strengthening the region's enterprise culture; developing a culture of innovation and objectivity; commercialising research and adopting innovation as well as strengthening clusters around leading R&D companies and research-intensive universities; increasing the demand for and supply of higher-level skills and creating a culture where people aspire to train and learn throughout life; promoting economic participation by equipping people with the confidence, skills and choices for employment and entrepreneurship and ensuring physical development meets the needs of a changing economy.

### **1.5 Strategy for disseminating benefits regionally, nationally and internationally**

The partners in CUHP already routinely employ many mechanisms, with national and international reach, for the dissemination and transfer of knowledge, including: conventional academic routes (publications, conferences); educational and training activities; specialist training; fellowships; industrial collaborations and the involvement of clinical academics in the developments of practice guidelines and policy. Section 1.4 also illustrates how benefits in the dimensions of patient care, human capital development and economic and social development are disseminated regionally and nationally, and how this will be accelerated by CUHP.

CUHP will be a powerful engine for innovation through its emphasis on the application of knowledge. To achieve full potential it must disseminate innovations beyond its own boundaries and work with others in the local and regional health economy to nurture cultures for innovation. An important aspect of CUHP will thus be the development of a network of local and regional stakeholders, including hospital trusts (which will be able to apply for the designation 'A Cambridge University Teaching Trust'), the SHA, and PCTs, as well as industrial collaborators. The aim of this network will be to transmit both specific innovations and the innovative culture itself beyond the core partners. The partners' leadership in the NIHR regional research networks – the Comprehensive Local Research Network (hosted by CUH), and the Cancer, Mental Health, Diabetes, Dementia and Stroke networks will facilitate this process. CUHP awaits details of the competition for Health Innovation and Education Clusters (HIECs) and intends to participate in a bid for HIEC designation and funding.

The partners are also engaged in the two-way transfer of academic knowledge, clinical expertise and human resources between Cambridge and the developing world. Trust directors and university professors have provided strategic advice to the Health Ministries of less economically developed countries. Academic staff members are engaged in international field studies, including the epidemiology of heart disease in the Indian subcontinent and creating cheap point of care tests for preventable diseases in East Africa. Here the University is also a partner in a consortium based on Makerere University Medical School funded under a new Wellcome Trust scheme to build research capacity in Africa. *Addenbrooke's Abroad*, a charitable organisation set up by CUH in 2006 helps to initiate, manage and invest in multiple forms of engagement without recourse to NHS funding. Under this initiative the Clinical Dean

has helped to plan the curriculum of the new University of Botswana Medical School, NHS clinicians have taught courses on trauma management, emergency neonatal care, sonography and diabetic ophthalmology as far afield as Nepal and El Salvador, and finance and management personnel from CUH have advised on systems set-up for health facilities in Africa. Educational links with North America include a medical student exchange scheme with Yale, and the combined graduate student programme with NIH, and there are many research links. As major employers of a globally diverse workforce, as the health service providers for a very international city and as a major centre for epidemiology, the partners are keenly aware that Cambridge is inextricably a part of the global health economy.

## **1.6 How the AHSC will add value and accelerate benefits**

The material presented above and in part 1 of this proposal demonstrates how the members of CUHP have successfully worked together over many years to generate benefits for people locally, regionally, nationally and internationally. It also demonstrates how the underlying vision of an academic clinical partnership has illuminated strategies for service, site and academic developments and driven investment in translational research. Establishing CUHP as a formal collaboration, and securing designation, will provide a step-change and further impetus in three ways: 1) through the establishment of a new entity legally bound to the pursuit of the tripartite mission; 2) through the enabling of partnership working; and 3) by providing a vehicle for activities that are either not performed at all or undertaken in a very fragmented way at present. We also see the creation of an AHSC as a project in changing culture and building shared values and priorities. CUHP will be marketed to both internal and external stakeholders as a means of building a culture supportive of the academic clinical endeavour and of enhancing reputation.

**Enabling partnership working** In discussion between the partners and through consultation with both internal and external stakeholders (see section 3), we have identified the following areas where CUHP will be able to facilitate improved partnership working.

- The development of clinical, research and education strategies for the AHSC, a process that will sit above the strategic planning of the individual organisations and allow the partners to seek strategic alignment and to identify key areas for joint working.
- Promoting research collaboration by making the Biomedical Research Centre (BRC) truly comprehensive, incorporating those themes that were excluded as a consequence of the 'one NHS partner' rule applied in that competition. The most notable of the missing themes are psychiatry, where there is potential for increased collaboration across many clinical areas but especially in neurosciences, public health and primary care.
- Strengthening primary care and health services research in Cambridge, so as to take discovery and innovation 'from bench to bedside to community'. This process has already begun as illustrated by the appointment of Professors of Primary Care (Stroke) and Health Services Research and the planned chair of Nursing Research. Cambridgeshire Community Services, the provider arm of the local Primary Care Trust, will be involved as a CUHP Associate and may be admitted as a full member once the process of externalisation from the PCT is concluded.
- Establishing new protocols for consultation of all members on key appointments within member organisations, covering clinical, academic and management leadership roles.
- Brokering a range of developments in multi-professional education and training, including: (a) the development of clinical research training modules for academic clinical fellows; (b) the development of a wider range of postgraduate degrees aimed at non-medical healthcare professionals; (c) the development of a postgraduate nursing unit linked to the appointment of Professor of Nursing Research; (d) the new Cardiovascular Research and Education Institute and (e) the development of a learning centre on the Cambridge Biomedical Campus. This last initiative will be a joint project with Anglia Ruskin University, which wishes to re-locate its nursing school onto the campus, and possibly with local schools and further education providers for diploma education.
- Developing shared services, in particular a common research office and shared accredited clinical trials office. Other areas for discussion include IT infrastructure, biomedical engineering and equipment and other clinical support services.

- Otherwise reducing barriers to collaborative research. Employees of the partner organisations will be encouraged to collaborate across organisational boundaries, thus maximising the impact of 'research passports'.
- The promotion of public involvement in research and public understanding of science, using the substantial existing mechanisms for patient and public involvement, including 40,000 members and active Governors.
- Ensuring attention to service issues at the border between the different NHS partners, so as to ensure seamless patient pathways, for example liaison psychiatry and respiratory medicine.
- Hosting campus 'town meetings' to ensure information sharing, resolution of common concerns and the promotion of interaction between the occupants of the campus. With the workforce in 2020 approaching 20,000, over 1,000 residents and a footprint the size of the historic centre of the city of Cambridge the campus will require effective governance.

**Providing a vehicle for activities that are either not performed at all or undertaken in a fragmented way at present.** We have identified the following opportunities for CUHP to broker or undertake new activities in the medium to long term. The pace of progress on these developments will be clarified through the process of business planning.

- Creating a shared resource for academically underpinned quality management and measurement to drive clinical and organisational effectiveness across the partners, so as to ensure that initiatives in quality, improvement and safety are all evidence-based and that Cambridge adds to the stock of knowledge in this field.
- Creating a regional shared resource to provide evidence for commissioning (strengthening existing proposals for an East of England Evidence and Innovation Appraisal and Adoption Co-ordinating Centre).
- Acting as a development vehicle for shared infrastructure for research and education, for example the proposed learning centre, bio-repository and bio-incubator.
- Brokering and co-ordinating new initiatives across the partnership in information technology and health informatics. The objective will be to promote the tripartite mission and specific goals may include: developing academic resources and programmes in informatics; promoting interoperability between clinical systems so as to ensure that data on all patients seen within any of the partner organisations can be exchanged; ensuring that consistent, quality-assured data are collected in all clinical settings; harmonising the information governance framework across all the partners; developing policies to facilitate secondary use of data in research and teaching; shared IT systems and infrastructure between NHS partners.
- Promoting initiatives for academically underpinned management development and evidence-informed management practice.
- Using CUHP to further develop international links, for example by providing a clearing house for information and developing formal links. This would build on existing initiatives such as 'Addenbrooke's Abroad'.
- Branding and marketing of CUHP so as to create international awareness of the full spectrum of the Cambridge offering in academic healthcare, research and education, attract trainees, staff and investment and build reputation. Examples would be the synergistic excellence of the heart and lung transplant programmes at Papworth with the liver and renal transplant programmes at CUHFT, and of psychiatry programmes at CPFT with clinical neurosciences programmes at CUHFT.

In addition, CUHP will be available to act as a vehicle for collaborative bids where it is strategically important and logistically desirable to have single-organisation bidding and contracting on behalf of all the partners.

## 2. PROPOSED GOVERNANCE ARRANGEMENTS

**Legal form and objects.** At present CUHP is not a separate legal entity and operates as an informal collaboration between the partner organisations, who have agreed a common statement of intent. With the support of the Boards/Governing Bodies of the partner organisations, and having taken legal advice, the steering group has agreed that CUHP should be established as a separate legal entity, probably by incorporation as a company with limited liability. The members of this company will be the partner organisations and its objects will be the pursuit of the tripartite mission. This will bind the four organisations, each of which has elements of the tripartite mission enshrined in its individual legal obligations, to the tripartite mission as a whole, as well as creating a vehicle that can enter into contracts if required. Delegation of functions to CUHP will be by the consent of the partners.

**AHSC Board.** A steering group, under the interim chairmanship of the Regius Professor of Physic, Professor JG Patrick Sissons MD, FRCP, FRCPath, provides strategic oversight and will determine long-term governance arrangements. Membership of the steering group has been carefully debated and agreed between the partners because the Directors of CUHP will be drawn from the group. As Directors of CUHP, these individuals will have to act in the interest of the AHSC (i.e. to further the tripartite mission). The CUHP Board will be chaired by an independent person, with the founding Chair being Professor Sir Keith Peters FRS, PMedSci.

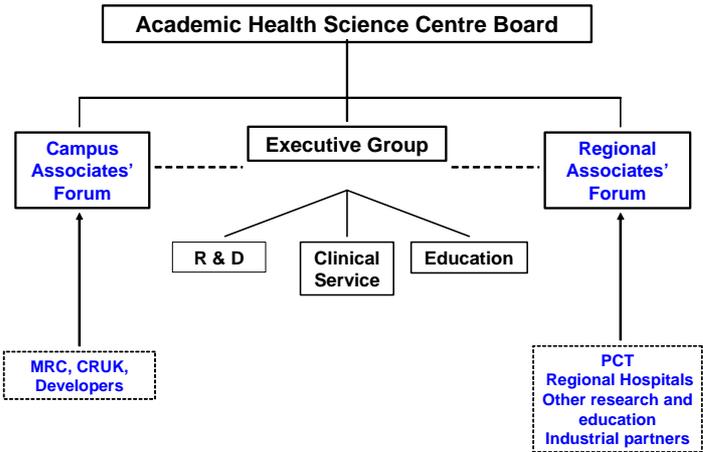
**Steering Group**

Independent Chair	
<b>University</b> <ul style="list-style-type: none"> <li>• Vice-Chancellor</li> <li>• Registrar</li> <li>• Regius Professor of Physic</li> <li>• Clinical Academic CPFT</li> <li>• Clinical Academic CUH</li> <li>• Clinical Academic PHFT</li> </ul>	<b>NHS</b> <ul style="list-style-type: none"> <li>• Chief Executive – CPFT</li> <li>• Chair – CPFT</li> <li>• Chief Executive – CUH</li> <li>• Chair – CUH</li> <li>• Chief Executive – PHFT</li> <li>• Chair - PHFT</li> </ul>

**Arrangements for joint working.** We expect the AHSC to promote joint working at all levels through three types of mechanisms: 1) agreement on the matters about which the AHSC will be consulted; 2) executive leadership; 3) re-shaping of internal management structures within partners to better support the tripartite mission.

The member organisations will consult CUHP about: a) key appointments to ensure that such appointments are commensurate with a commitment to the tripartite mission; b) capital development plans, particularly as these relate to the Cambridge Biomedical Campus; and c) changes to the structural organisation of each of the partners, including the number and scope of Clinical Directorates (NHS) and Departments and Institutes (Clinical School). Over time, as confidence between the partners builds, and as greater understanding is achieved of risks and opportunities, consideration will be given to strengthening the obligations of the partners beyond consultation with CUHP.

An executive group will operate under delegated authority from the CUHP Board. The governing principle for this group is that it must be able to provide executive leadership across all aspects of mission. The group will be chaired by The Regius Professor as Director of the AHSC, who will be supported on a day-to-day basis by a Chief Operating Officer. The executive group will include 'mission leads' who will work across the partners and we anticipate that other groups, both standing and project-related, may be required as the CUHP programme of work is taken forward. This will be on a needs-driven basis and CUHP will avoid setting up new committees unless this will bring clear advantages. Some existing joint committees (e.g. research management) will be attached to the AHSC. Forums for campus associates and regional associates will also be established, and it is likely that the latter will evolve into a HIEC. Consideration will be given to the drawing of further independent directors with business and community links from the regional forum.



Member organisations will also re-shape their internal structures to further support the tripartite mission. CUH, the largest and most complex NHS partner, has recently re-structured its clinical and business management into seven divisions. Divisional deputy directors will be responsible for research within divisions and there will also be an education lead within each division. A new post of Executive Director for Research has also been created on the Board of Directors. CPFT also plan to establish a post of Executive Director for Research.

In addition to the full members of CUHP there will also be associates: these include the MRC, Cancer Research UK, industry partners, and existing NHS partners in teaching and service. We will also ensure that CUHP governance arrangements align with existing governance mechanisms, including those created for the NIHR BRC and the NIHR CLAHRC and those already in place for the individual Foundation Trusts.

### 3. FINANCIAL AND OPERATIONAL STABILITY

**Business plan.** CUHP will initially be a ‘thin’ organisation whose role is enabling rather than delivery. Staffing will be confined initially to the Chair and Chief Operating Officer, together with a small administrative and communications staff. The initial cost of CUHP is expected to be in the region of £250,000 pa, which will be shared between the partners on a formula basis. The combined turnover of the partner organisations is around £750M per annum<sup>1</sup>. Transfers of undertakings in relation to shared support functions are more likely to be between the partners (and, in particular, the NHS partners) than from individual partners to CUHP. However, the establishment of a separate legal entity will allow for transfer to CUHP should this be judged advantageous in the future. Intellectual property rights will be managed under existing arrangements and the emphasis will be on collaboration for better exploitation. Any new streams of AHSC-related activity in which the partners decide to invest (see section 1.6) may be hosted by CUHP or by one of the partner organisations, depending on the merits of the case. Detailed arrangements for transfers of undertakings and new activities will be negotiated within CUHP on a case by case basis. As these details have not yet been agreed it is not possible to calculate the marginal impact on revenue and costs for the partnership but the partners will seek to achieve savings or additional income through collaboration exceeding the incremental costs of establishing CUHP. A business plan will be produced by summer 2009.

**Risk management and board assurance.** The creation of a separate legal entity will provide a limitation to the contractual and financial risks of the partner organisations, although not necessarily to the reputation risks. Risk and reward will be negotiated on a case by case basis as tasks and or functions are delegated to CUHP. The steering group has considered the risks associated with the proposal and means of assurance (see table below). This approach would also be extended to provide assurance for specific AHSC initiatives as these are agreed. The partner Boards/Governing Bodies have also individually considered and approved the proposal to establish CUHP.

#### Board Approvals

Partner	Date of Approval	Key points from minutes
University of Cambridge	16 <sup>th</sup> February 2009	Council in agreement with the adoption of the name ‘Cambridge University Health Partners’ for bidding.
Cambridgeshire and Peterborough NHS FT	30 September 2008	Board approval for establishing a Cambridgeshire AHSC and is supportive of a separate legal entity.
Cambridge University Hospitals NHS FT	27 January 2009	Board supportive of a separate legal entity; wish to see development of a 5 year plan; wish Governors to be kept informed.
Papworth Hospital NHS FT	29 January 2009	Board agreed to the proposal of a separate legal entity, and to the development of a five-year plan.

<sup>1</sup> This includes only the Clinical School element of University of Cambridge income.

## AHSC controls assurance

Risk description	Controls – what systems will mitigate the risk?	Assurances – where will the AHSC gain evidence on the effectiveness of controls.
Direct cost of establishing the AHSC will exceed benefits.	Development of a business plan for the AHSC.	Routine reporting to the AHSC Board of performance against the business plan.
AHSC will prove ineffectual because partners will not cede control; are unwilling to invest in new initiatives; or are unwilling to invest time in development of AHSC governance and dynamics.	Development of a business plan for the AHSC. Development of executive group and other sub-groups as effective forums. Effective development of AHSC Chair, Director and COO roles.	Routine reporting to the AHSC Board of performance against the business plan. Periodic reflection and self-appraisal by the AHSC Board.
Reputation damage to other partners if one partner suffers significant reputation damage.	Effective and adequately resourced arrangements for managing AHSC communications.	Routine reporting of public coverage.
Destabilisation of existing governance arrangements in partner organisations.	Adequate attention and liaison to issues of alignment of governance, especially involvement of Governors. Involvement of Patient and Public Members in a way that is co-ordinated with existing initiatives.	Routine reporting to the AHSC Board.

**Financial and operational stability.** The current financial risk rating for each NHS Foundation Trust, extracts from 2007/8 audited accounts and forward financial projections to 2010/11 are included as annex A. For the University, a periodic HEFCE Assurance visit took place on 30 June 2008. The report will be published by HEFCE shortly, together with the Council's reply. The University accounts for 2007/8 received an unqualified audit report.

**Leadership and management capacity.** The AHSC will be led by individuals with a wealth of experience in the leadership of higher education and health care institutions, and in management of clinical academic partnerships (see biographical details separately submitted).

**Involvement of stakeholders.** A number of events have been held or are planned to involved stakeholders in the development of the AHSC proposals.

- 04/12/08: Briefing to Papworth/CUH joint Boards of Governors meeting;
- 17/12/08: Bid development meeting involving a range of internal stakeholders
- 03/02/09: Stakeholder event involving over 60 delegates from a range of partner organisations covering service, research, education, industry and economic development and including a presentation by the Strategic Health Authority on HIECs.
- 11/2/09 Briefing to CPFT Board of Governors.
- Planned: post designation public engagement event for the AHSC and HIEC bid development meeting.
- Planned: establishment of Campus Forum and Regional Forum.

## Annex

### Current Financial Performance of NHS Partners (extracts from 2007/8 audited accounts)

<b>Balance sheets at 31 March 2008</b>	<b>CPFT £'000s</b>	<b>CUH £'000s</b>	<b>PHFT £'000s</b>
Total fixed assets	81,076	245,923	55,835
Net current assets	4,496	15,968	3,990
Total assets less current liabilities	85,572	261,891	59,825
Creditors over 1 year and provisions	- 3,188 -	- 22,756 -	- 3,254
Total Assets employed	82,384	239,135	56,571
Public dividend capital	8,658	114,768	28,779
Revaluation reserve	30,978	78,435	13,775
Donated asset reserve	1,456	13,113	4,641
Other reserves	33,732		
Income and expenditure reserve	7,560	32,819	9,376
	82,384	239,135	56,571
<b>Income and expenditure accounts for the year ended 31st March 2008</b>	<b>CPFT £'000s</b>	<b>CUH £'000s</b>	<b>PHFT £'000s</b>
Income from activities	100,891	354,750	93,529
Other operating income	25,519	100,278	7,053
Total income	126,410	455,028	100,582
Operating expenses	- 123,581 -	- 441,605 -	- 95,016
Surplus before interest	2,829	13,423	5,566
Interest receivable	343	2,669	509
Financing costs	- 217 -	- 996 -	- 118
<b>Surplus</b>	2,955	15,096	5,957
PDC dividends payable	- 2,801 -	- 5,990 -	- 1,678
<b>Retained surplus</b>	154	9,106	4,279
<b>Cash flow statement for the year ended 31st March 2008</b>	<b>CPFT £'000s</b>	<b>CUH £'000s</b>	<b>PHFT £'000s</b>
Net cash inflow from operating activities	7,952	34,399	11,435
Net cash inflow before financing	7,721	6,111	692
Financing inflows(outflows)	- 6,412	13,998	4,100
Increase/(decrease) in cash	1,309	20,109	4,792
<b>Financial risk rating at Q2 2008/9</b>	<b>4</b>	<b>4</b>	<b>5</b>

## Income and expenditure forecasts (from annual plans supplied to Monitor)

<b>Cambridgeshire &amp; Peterborough FT</b>	<b>2008/9 plan £M</b>	<b>2009/10 plan £M</b>	<b>2010/11 plan £M</b>
Total clinical income	102.0	104.0	105.7
Other income	27.9	29.8	29.8
<b>Total income</b>	<b>129.9</b>	<b>133.8</b>	<b>135.5</b>
Pay costs	87.0	89.8	91.6
Other costs exc depreciation	34.8	34.7	33.7
<b>Total costs</b>	<b>121.8</b>	<b>124.5</b>	<b>125.3</b>
<b>Earnings before interest, tax, depn and amortisation (EBITDA)</b>	<b>8.1</b>	<b>9.3</b>	<b>10.2</b>
Depreciation	4.1	4.2	4.4
PDC Dividend	2.8	3.2	3.3
net interest	-0.2	-0.2	-0.4
<b>Net surplus/(deficit)</b>	<b>1.4</b>	<b>2.1</b>	<b>2.9</b>
<b>Cambridge University Hospitals</b>	<b>2008/9 plan £M</b>	<b>2009/10 plan £M</b>	<b>2010/11 plan £M</b>
Total clinical income	378.8	396.0	414.1
Other income	101.3	94.7	94.1
<b>Total income</b>	<b>480.1</b>	<b>490.7</b>	<b>508.2</b>
Pay costs	277.9	276.7	284.7
Other costs exc depreciation	171.5	176.3	181.8
<b>Total costs</b>	<b>449.4</b>	<b>453.0</b>	<b>466.5</b>
<b>Earnings before interest, tax, depn and amortisation (EBITDA)</b>	<b>30.7</b>	<b>37.7</b>	<b>41.7</b>
Depreciation	17.2	21.7	24.0
PDC Dividend	6.9	8.4	9.0
net interest	-0.5	0.3	0.2
<b>Net surplus/(deficit)</b>	<b>7.1</b>	<b>7.3</b>	<b>8.5</b>
<b>Papworth Hospital NHS FT</b>	<b>2008/9 plan £M</b>	<b>2009/10 plan £M</b>	<b>2010/11 plan £M</b>
Total clinical income	97.6	102.1	105.4
Other income	8.8	8.6	8.0
<b>Total income</b>	<b>106.4</b>	<b>110.7</b>	<b>113.4</b>
Pay costs	52.8	54.5	55.0
Other costs exc depreciation	45.5	47.2	47.9
<b>Total costs</b>	<b>98.3</b>	<b>101.7</b>	<b>102.9</b>
<b>Earnings before interest, tax, depn and amortisation (EBITDA)</b>	<b>8.1</b>	<b>9</b>	<b>10.5</b>
Depreciation	3.3	3.5	3.5
PDC Dividend	1.7	1.9	2.3
net interest	0.0	-0.3	0.0
<b>Net surplus/(deficit)</b>	<b>3.1</b>	<b>3.9</b>	<b>4.7</b>